Dr. Larry L. Eng
Assistant Chief
Environmental Services Division

January 30, 1998

Review of CALFED Species List and Programmatic Actions

The Bay-Delta and Special Water Projects Division has reviewed the Ecological Zone Key Code and Summary of CALFED's Ecological Restoration Program Plan as well as the draft species impact and mitigation matrix tables for the initial twelve species under evaluation and offer the following comments for your consideration.

GENERAL COMMENTS

The summary of ecosystem restoration plan programmatic actions appears comprehensive with the format and structure of the tables easy to understand. The information on each species seems adequate and accurate.

In regards to the tables, our review focused more on the program effects and mitigation measures, less on the summary of programmatic actions impact mechanisms. One confusing point of the tables occurs under the summary outcomes column for different evaluation species and concerns the acreage to be converted to different habitat types. For example, listed for the Delta region is a target of converting 115,000 acres of agricultural lands to aquatic, wetland, and riparian habitat area; this is found in the table for the Swainson's hawk and the greater sandhill crane. The wetland management strategies employed will determine whether the wetlands will benefit or adversly impact Swainson's hawk and sandhill crane. The table states that overall effects might be a loss of foraging habitat for the Swainson's hawk and a gain in foraging habitat for the greater sandhill crane. It would be beneficial to have the amount of acreage that is estimated as a benefit or impact to the species provided for the reader. If acreage and management specificity isn't available. A cautionary note should be added to the tables which states that due to the lack of this specific information it isn't possible to estimate the level of benefits or adverse impact.

The tables and general presentation of information is also confusing from another aspect. One of the original intents of the targets and actions in the ERPP for species such as greater sandhill crane and Swainson's hawk was to describe acreage and management needed to assist in the recovery of these two species. This was done with the recognition that targets for other habitat types such as tidal emergent wetland would remove existing suitable habitat for these two species. Therefore, for the habitat conversions prescribed by the ERPP, no

additional habitat beyond the ERPP is needed for those two species. The natural extension of this would result in deleting mitigation strategies such as M2, M4 and M5 for both Swainson's hawk and greater sandhill crane (tables 3b and 4b). As a substitute, language which clearly describes the above issue should be added. Likewise "temporarily or permanently inundating land" and "flooding fields" are activities identified as potentially affecting take of these species (tables 3a and 4a). These potential impacts must also be presented in the context of how the ERPP was crafted.

SPECIFIC COMMENTS

TABLE 1B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE CALIFORNIA BLACK RAIL

Potential Mitigation Strategy 1: Page 1, Number 1; Page 2, Number 1; Page 3, Number 1; Page 3, Numbers 2 and 3; Page 4, Number 3; Page 5, Numbers 5 and 6; Page 6, Number 7; Page 7, Numbers 10 and 12; Page 8, Number 15; Page 9, Numbers 16 and 17; and Page 10, Number 21:

Reword the sentence as follows: "Restore or enhance sufficient suitable mitigation habitat area to offset impacts on the species at *adjacent tidal wetlands* before or at the time that project impacts on occupied or potentially occupied habitat are incurred."

Potential Mitigation Strategies 2 and 3: Page 1, Number 1; Page 2, Number 1; Page 3, Numbers 1 through 3; Page 4, Number 3; Page 5, Numbers 5 and 6; Page 6, Number 7; Page 7, Numbers 10 and 12; Page 8, Number 15; Page 9, Numbers 16 and 17; Page 10, Number 21:

> Credit should be given for mitigation strategies number 2 and 3 if mitigation habitat areas are adjacent to tidal wetlands.

Potential Benefits 3: Page 3:

Consider rewording as follows: "Potential increase in species numbers through *increase in foraging habitat, providing thermal cover, and* reduction in predation levels resulting from restoration of habitat used as cover by the species."

TABLE 2. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE CALIFORNIA CLAPPER RAIL

Potential Benefits 4: Page 5

A short explanation is needed to clarify how restoration and management of seasonal wetlands will reduce predation levels. Perhaps it should be stated that efforts will target the construction of larger, more contiguous areas of habitat that increase the quality of habitat available to the clapper rail. If the configuration of the emergent vegetation and the aquatic habitat was such that restoration and management efforts provided larger areas that did not become inundated, losses may be reduced. Consider adding wording as follows: "Potential increase in species numbers through *increase in foraging habitat, providing thermal cover, and* reduction in predation levels resulting from restoration of habitat used as cover by the species."

TABLE 3B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE SWAINSON'S HAWK

Page 1, Number 1:

Aquatic, wetland, and riparian habitats have different values for the Swainson's hawk therefore knowledge of the acreage of each habitat type to be created would benefit the reader.

Potential Beneficial Effects 2: Page 1, Number 1; Page 7, Number 8; and Page 12, Number 22:

Consider rewording as follows: "Restoration of seasonal wetland habitats could increase the availability and/or quality of foraging habitat during periods when wetlands are not flooded *on those habitats that under existing conditions provide little to no value.*"

Page 1, Number 1, Overall Effect:

Add to the first sentence as follows: "Potential *substantial* decrease..."
Delete from the second sentence to read as follows, "Potential for increase in area..."

Potential Adverse Effects 2: Page 2, Number 1; Page 5, Number 8; Page 9, Number 14; Page 10, Number 16; Page 11, Number 21; Page 12, Number 22; and Page 13, Number 26:

Consider rewording as follows: "This could result if agricultural lands with high forage value are replaced by native habitats with little or no forage value."

Potential Mitigation Strategy 5: Page 2, Number 1; Page 7, Numbers 8 through 10; Page 9, Number 14; Page 10, Numbers 16 and 18; and Page 11, Number 21:

Specify that offsite locations are nearby or adjacent. Delete wording to read, "... on the species at offsite locations before project impacts..."

Page 3, Number 1, Overall Effect of Summary Outcomes with Mitigation:

Add the following sentence: *Potential for loss of recruitment of young into the population if activities resulted in nest disturbance or nest destruction is great unless all activities are timed to avoid the nesting season and any nest sites.*

Potential Adverse Effects 4: Page 3, Number 1; Page 8, Numbers 11 and 12; Page 9, Numbers 14 and 15; Page 10, Numbers 16 and 17; Page 11, Numbers 19 and 21; Page 12, Numbers 22 and 23; and Page 13, Number 26:

Remove the word *temporary* from both sentences since unless the disturbance is very short term and at the beginning of the nesting season, the likelihood is that any reduction in nesting success will be permanent.

Potential Mitigation Strategy 7: Page 3, Number 1; Page 8, Numbers 11 and 12; Page 9, Numbers 14 and 15; Page 10, Numbers 16 through 18; Page 11, Number 21; and Page 12, Numbers 22 and 23:

Reword as follows: "...near active nest sites during *or immediately preceding* the nesting season."

Page 5, Number 4, Overall Effect of Summary Outcomes with Mitigation:

Reword to clarify the intent of this sentence.

Page 7, Number 8, Overall Effect:

Add to the first sentence as follows: "Potential *substantial* decrease..."
Delete from the second sentence to read as follows: "Potential for increase in area..."

TABLE 4A. SUMMARY OF PROGRAMMATIC ACTIONS AND IMPACT MECHANISMS POTENTIALLY AFFECTING THE GREATER SANDHILL CRANE

Cranes are winter migrants therefore efforts to enhance, restore, or protect habitats should be conducted when the species is not present and disturbance is minimized or non-existent.

Page 1, Summary Outcome 1, Activity 2; Outcome 4, Activity 1; Page 2, Outcome 6, Activity 2; and Page 3, Outcome 11, Activity 2:

Grading and filling will need to occur outside of the winter season allowing equipment to get into fields. This should not result in any negative effect on the species unless land use patterns change as a result.

Page 1, Summary Outcome 1, Activity 4:

Installation of structures that restrict channel flows should have no effect on the species since they do not wade as do herons and egrets but rather occupy grain fields and pastures which are flooded with several inches of water. Ditches and channels are not suitable habitat for sandhill cranes.

Page 1, Summary Outcome 2, Activity 1; Summary Outcome 3, Activity 4; and Page 2, Outcome 8, Activity 1:

Cranes are winter migrants therefore restoration efforts can take place when the species does not occur in the area thereby causing no disturbance.

Page 1, Summary Outcome 3, Activity 1:

Installation of water control infrastructure should be planned during times of the year when cranes are not present to avoid disturbance.

TABLE 4B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE GREATER SANDHILL CRANE

Potential Beneficial Effects: Page 1:

Specify the "types" of wetlands that would increase the availability of roosting sites.

Potential Adverse Effects: Page 1:

Change forage-habitat to *forage availability.* If habitats are restored that do not provide suitable forage adaptive management will be needed to correct any unsuccessful restoration efforts.

TABLE 5. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE WESTERN YELLOW-BILLED CUCKOO

Riparian restoration efforts associated with this species need to focus on the Fremont cottonwood series (cottonwood-willow with a dense understory).

Potential Adverse Effects:

Because the species is not known to currently inhabit the Delta Region but could occur in future years as a result of restoration activities, potential adverse impacts to this species will occur in future years.

Potential Mitigation Strategy 1: Page 1, Number 1:

A large part of this paragraph belongs under potential adverse effects.

Potential Mitigation Strategy 2: Page 1, Number 1:

Reword the sentence to read, "Avoid removal of trees and shrubs that are within *occupied habitat.*"

Potential Mitigation Strategy 3: Page 2, Number 1:

Reword the sentence to read, "Restore or enhance sufficient suitable mitigation habitat area to offset impacts on the species at *nearby* offsite locations..."

Potential Mitigation Strategies 3 and 4: Page 2; Page 4, Number 2; Page 5, Number 4; Page 6, Number 6; Page 7, Number 8; and Page 8, Number 10:

Mitigation habitats should be of a size no less than 10 hectares with a width of no less than 100 meters wide.

Potential Adverse Effects 3: Page 3; Page 4, Number 2; Page 4, Number 3; Page 5, Number

4; Page 6, Number 6; Page 7, Number 7 and 8; Page 8, Number 10; and Page 9, Number 11:

Effects on nesting success could be permanent if activities occurred during nesting and caused nest failure for individual cuckoos.

Potential Mitigation Strategy 6: Page 3; Page 4, Number 2 and 3; Page 5, Number 4; Page 6, Number 6; Page 7, Number 7 and 8; Page 8, Number 10; and Page 9, Number 11:

Reword to read as follows: "Avoid activities that implement actions near nest sites or phase action implementation to avoid disturbance near active nest sites during *or immediately before* nesting season."

TABLE 6. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE RIPARIAN BRUSH RABBIT

Potential Beneficial Effects: Page 2, Number 2; and Page 3, Number 5:

Reword the sentence to read, "Establishment of additional *self-sustaining* populations would increase..."

Page 2, Number 2, M1:

Correct the spelling of release.

TABLE 7B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE VALLEY ELDERBERRY LONGHORN BEATLE

Potential Mitigation Strategy 1: Page 1:

End the sentence after shrubs so it reads, "Avoid removal of elderberry shrubs."

Page 7, Number 10:

Reword to read as, "Improve management *of lands adjacent to* agricultural lands to increase habitat value for wildlife."

Potential Beneficial Effects 1 through 3: Page 7, Number 10; and Page 11, Number 16:

Reword to read as, "These potential benefits would apply only if management *lands adjacent to* agricultural lands..."

TABLE 8B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR MASON'S LILAEOPSIS

Overall Effect of Summary Outcomes with Mitigation: Page 3, Number 4; and Page 5, Number 12:

Add the following sentence: *Potential increase in populations due to an increase in suitable habitat.*

TABLE 9B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE WINTER-RUN CHINOOK SALMON

Page 6; Table 9b; and Page 6: Table 10b: Enhancement of Striped Bass:

The language in the Potential Adverse Effects on Species column should be modified to delete the phrase:

"...before system productivity has been upgraded to sustain such populations..."

The second sentence for mitigation strategy and ME11 in the Potential Mitigation Strategies column should be deleted and replaced with the following:

"Stocking should be conducted in a manner consistent with the conservation plan developed as part of the Section 10 permitting process for the DFG's Striped Bass Program with the USFWS and NMFS."

TABLE 10B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE DELTA SMELT

There is no potential adverse effect 2 or 3.

Summary Outcomes: Page 1, Number 1; and Page 8, Number 16:

Delta smelt use aquatic habitat for their entire life cycle. There is very little evidence that

delta smelt use "tidal freshwater emergent wetland". It is not used as spawning habitat, rearing habitat or migratory habitat, therefore, the stated potential benefit of "potential increase in larval, juvenile, and adult rearing habitat" should be stricken. Increased primary and secondary production would benefit delta smelt through the food chain. The statement that there would be "increased survival through reduction in predation" is also inappropriate and should be stricken. Increases in habitat for predators such as centrachids, gobies and inland siversides may be a potential adverse effect that is not presented in that column.

Potential Beneficial Effect, Page 1, Number 2:

Number 1 should be included here.

Potential Adverse Effect, Page 1, Number 2:

Potential adverse effects listed in Number 1 should also be listed here.

Overall Effect: Page 2, Number 3; Page 9, Number 18:

Protecting emergent wetlands from loss to erosion and dredging will not improve growth and survival of delta smelt, it may just maintain current conditions.

General Comment: Page 2, Number 4; Page 9, Number 19:

Current programs to eradicate non-native aquatic plants from the estuary do not have any environmental documentation (CESA or CEQA).

Potential Adverse Effect: Page 4, Number 7; Page 10, Number 21:

Reduction in carryover storage is not an adverse effect (take) on delta smelt.

General Comment: Page 5, Number 9:

Obstruction of direct upstream and downstream movement is "take".

General Comment: Page 6, Number 10:

Only adverse effects of the HOR barrier in the Fall are discussed. Use of spring HOR

barrier may have extremely large adverse effects on delta smelt. To fully protect delta smelt the HOR barrier should be configured and operated in the spring to avoid adverse hydraulic changes in the central Delta.

General Comment: Page 6, Number 11, Enhancement of Striped Bass:

The language in the Potential Adverse Effects on Species column should be modified to delete the phrase:

"...before system productivity has been upgraded to sustain such populations..."

The second sentence for mitigation strategy M11 in the Potential Mitigation Strategies column should be deleted and replaced with the following:

"Stocking should be conducted in a manner consistent with the conservation plan developed as part of the Section 10 permitting process for the DFG's Striped Bass Program with the USFWS and NMFS."

General Comment: Page 7, Number 15:

It is very difficult to evaluate whether a program objective would adversely effect delta smelt when they are not listed.

General Comment: Page 12, Number 25:

The extent of predation by stocked striped bass on delta smelt has been determined (see Section 10 consultation of striped bass net pen rearing program with the USFWS and NMFS). The extent of predation by stocked salmon has not been determined. We are not aware of whether Salmon hatchery programs have any environmental documentation (CESA or CEQA) on their effect on delta smelt.

General Comment: Page 13, Number 27:

It is very difficult to evaluate whether a program objective would adversely affect delta smelt when they are not listed. It is suggested that items from Summary Outcome Number 26 be used until reviewed.

TABLE 12B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE CALIFORNIA RED-LEGGED FROG

Potential Mitigation Strategy 1: Page 1, Number 1:

Reword to read, "Restore or enhance sufficient suitable mitigation habitat area to offset impacts on the species at *nearby* offsite locations before or at the time that project impacts on occupied or potentially occupied habitat are incurred."

Potential Beneficial Effects 1: Page 2, Numbers 2, 4, and 5; Page 4, Number 10; Page 5, Number 14 and 15; Page 7, Number 20 and 21:

Change the wording to, "This benefit would apply only to seasonal wetlands that are flooded during the *late November* to August breeding period when the species is active."

Potential Beneficial Effects 1: Page 3, Number 6; Page 4, Number 11; Page 6, Number 17; Page 8, Number 23:

Change the wording to, "This benefit potentially would apply if actions are implemented that result in extending the period existing seasonal wetlands are flooded into the *late November* to August breeding period or results in creating additional canals and ditches to improve wetlands management."

Potential Mitigation Strategy 4: Page 3, Number 8

Correct the misspelled word *susceptible.*

TABLE 12B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE CALIFORNIA RED-LEGGED FROG

Page 2, Summary Outcome 3:

Add the following potential adverse effect: Activities could result in corridors through which bullfrogs could migrate, out compete, and displace red-legged frogs.

Page 2, Summary Outcome 3:

Add the following potential mitigation strategy to the above effect: Implement a management strategy that monitors the presence of non-native species in restoration

areas. If these species are detected, actions will need to be implemented to remove them.

Page 4, Outcome 10 and 11:

Further explanation is needed to make it clear that efforts will be conducted in freshwater

seasonal wetlands; this also needs to be stated in the other columns as well.

TABLE 13B. POTENTIAL CALFED PROGRAM EFFECTS AND MITIGATION MEASURES FOR THE GIANT GARTER SNAKE

Potential Mitigation Strategy 1: Page 1, Number 1; Page 2, Number 2; Page 2, Number 4; Page 2, Number 5; Page 4, Number 8; Page 4, Number 9; Page 6, Number 14; and Page 6, Number 15:

Reword as follows: "Restore or enhance sufficient suitable mitigation habitat area *at a ratio of 2:1* on the species at *nearby adjacent uplands* before the time that project impacts on occupied or potentially occupied or potentially occupied habitat are incurred *and create corridors linking the sites*."

Overall Effect of Summary Outcomes with Mitigation: Page 1; Page 2, Number 2; Page 2, Number 4 & 5; Page 4, Number 8 and 9; and Page 6, Number 14 and 15:

Add the following sentence: *Interim population declines could occur during the time between destruction of the original occupied habitat and maturation of the new habitat.*

Potential Mitigation Strategy 2: Page 1, Number 1; Page 2, Number 2; Page 2, Number 4; Page 2, Number 5; Page 4, Number 8; Page 4, Number 9; Page 6, Number 14; and Page 6, Number 15:

Reword as follows: "To the extent possible, locate mitigation habitats *at a ratio of 2:1* near suitable existing habitat areas ... *and create corridors linking the sites.*

Page 2, Number 5:

Add the following mitigation measure for vegetation removal from existing canals and ditches in potentially occupied habitat: *Where possible, excavation of only one side of the canal will take place during a given year; excavation will take place during the active season, May 1 to October 1; vegetation will remain undisturbed on the tops and sides of the canals; and auto traffic will be restricted along the canals. Ditch designs*

should be developed so that a "shelf" is created and protected on one side of the ditch and is protected from maintenance.

Thank you for the opportunity to review and comment on these tables. We look forward to reviewing and commenting on the remaining species. If you have any questions feel free to

D-050100

call me at CALNET 423-7800 or Ms. Laurie Briden of my staff at CALNET 423-7041.

Frank Wernette
Senior Biologist
Bay-Delta and Special Water
Projects Division

cc: Mr. Jim White - ESD
Mr. Pete Chadwick - BDD
Mr. Dale Sweetnam - BDD
Ms. Laurie Briden - BDD
Mr. Brad Burkholder - BDD

fw98a675.wpd

D-050101